

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Wolf Bertling et al. Art Unit : Unknown  
 Serial No. : 10/069,840 Examiner : Unknown  
 Filed : June 26, 2002  
 Title : METHOD FOR DETECTING AND QUANTIFYING FIRST BIOPOLYMERS  
 THAT ARE LOCATED IN A LIQUID

**BOX PCT**

Commissioner for Patents  
 Washington, D.C. 20231

TRANSMITTAL LETTER

The following documents relating to this application are enclosed.

1. Transmittal Letter to the United States Designated/Elected Office Concerning a Filing Under 35 U.S.C. 371 (1 page);
2. English translation of the International Preliminary Examination Report (4 pages); and
3. Postcard.

Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: April 16, 2003

M. Angela Parsons  
 M. Angela Parsons, Ph.D.  
 Reg. No. 44,282

**RECEIVED**

MAY 02 2003

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60137035.doc

**CERTIFICATE OF MAILING BY FIRST CLASS MAIL**

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, Washington, D.C. 20231.

April 16, 2003  
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Jill Huso  
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Jill Huso  
 Typed or Printed Name of Person Signing Certificate

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TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE  
CONCERNING A FILING UNDER 35 U.S.C. 371

Applicants herewith submit a copy of the English translation of the International  
Preliminary Examination Report.

Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: April 16, 2003

M. Angela Parsons  
M. Angela Parsons, Ph.D.  
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Jill Huso  
Signature

Jill Huso  
Typed or Printed Name of Person Signing Certificate

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 401152GA	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/DE00/02757	International filing date (day/month/year) 12 August 2000 (12.08.00)	Priority date (day/month/year) 26 August 1999 (26.08.99)
International Patent Classification (IPC) or national classification and IPC C12Q 1/68		
Applicant NOVEMBER AKTIENGESELLSCHAFT GESELLSCHAFT FÜR MOLEKULARE MEDIZIN		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
- ☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of \_\_\_\_\_ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 09 March 2001 (09.03.01)	Date of completion of this report 22 January 2002 (22.01.2002)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/DE00/02757

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

- ☒ the international application as originally filed
- ☒ the description:  
pages \_\_\_\_\_ 1-7 \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☒ the claims:  
pages \_\_\_\_\_ 1-14 \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, as amended (together with any statement under Article 19  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☒ the drawings:  
pages \_\_\_\_\_ 1/3-3/3 \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☒ the sequence listing part of the description:  
pages \_\_\_\_\_ 1/1 \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☒ contained in the international application in written form.
- ☒ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/DE 00/02757

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1-14	YES
	Claims		NO
Inventive step (IS)	Claims	1-14	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-14	YES
	Claims		NO

## 2. Citations and explanations

The following international search report citations represent the closest prior art:

- D1: US-A-5 871 918 (NAPIER MARY E et al.), 16 February 1999 (1999-02-16) (cited in the application)
- D2: WO-A-98/02399 (BERTLING WOLF), 22 January 1998 (1998-01-22)

1. As stated in the first paragraph on page 2 of the description, known voltammetric methods for detecting biopolymers present in a solution are elaborate and expensive because they either require the addition of particular redox-active molecules (as described in document D1, for example, which is acknowledged on page 1 of the description) or involve the use of special chips which are difficult to manufacture.

Another possibility is described in document D2 (by the same applicant), which relates to a method using a coated electrode to which the biopolymer is attached by pole reversal and the application of various voltages.

2. The method according to Claim 1 involves (at least)

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/DE 00/02757

two electrodes, one of which is coated with a second biopolymer that has an affinity to the biopolymer analyte. A voltage and/or a current is applied to the electrodes, and the change in voltage and/or current resulting from the addition of the biopolymer analyte is measured. This method is not disclosed in any of the known documents, nor can it be derived from them in an obvious way.

3. The subject matter of Claim 1 is therefore novel and inventive within the meaning of PCT Article 33(2) and (3). The same applies to dependent Claims 2-14.